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UM scientist studies evolution of flights

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NEWS RELEASE

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UM SCIENTIST STUDIES EVOLUTION OF FLIGHT

MISSOULA—

A new University of Montana study about the evolution of flight should ease the minds of those who have pondered the evidence of feathers on some dinosaurs, or wondered whether chicken wings served a purpose beyond deep fat fryers and blue cheese sauce.

In nature, flightless birds frequently beat their wings to help them walk and run up steep slopes, according to Kenneth Dial, a professor in UM's Division of Biological Sciences. In fact, he found that baby partridges whose flight feathers had been trimmed or removed couldn't scuttle up slopes as steep as those scaled by normal partridges.

To determine why, he recorded the uphill running on video and strapped two accelerometers to the front and backside of birds. Dial's analysis of the physics of flapping indicates that, like spoilers on a race car, the wing beats helped press the birds against the uphill slope, improving the traction of their legs on the ground.

He proposes that the feathered forelimbs of some small two-legged dinosaurs may have helped the animals run up inclined or even vertical surfaces, during a chase, for example. This sort of flapping motion involves a different set of forces than those involved in aerial flight.

Dial suggests that by modifying these wing movements, birds or their ancestors may have been able to launch themselves briefly into the air and control their descent as they ran

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downhill. He speculates true flight may ultimately have evolved from these beginnings.

Dial's findings are in the Jan. 17 issue of the journal Science in an article titled "Wing-assisted Incline Running and the Evolution of Flight."

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Note: This release came to UM courtesy of the journal Science.

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